Physical activity and risk of breast cancer in the Framingham Heart Study

Author: Dorgan JF, Brown C, Barrett M, Splansky GL, Kreger BE, D'Agostino RB, Albanes D, Schatzkin A

Journal: Am J Epidemiol 1994; 139(7):662-9

Abstract: The authors analyzed data from the Framingham Heart Study to evaluate the association between physical activity and breast cancer risk. Physical activity was ascertained by a physician-administered questionnaire from 2,321 women at the fourth biennial examination conducted in 1954-1956. Breast cancers were identified by self-report, surveillance of admissions to Framingham Union Hospital, and review of death records; all but one were histologically confirmed. During 28 years of follow-up, 117 breast cancer cases were diagnosed among the 2,307 women with data on physical activity and reproductive history (a potential confounder). Analysis was performed using Cox proportional hazards models with age as the underlying time variable. Models were adjusted for age at physical activity assessment, menopausal status, age at first pregnancy, parity, education, occupation, and alcohol ingestion. We observed a gradient of increasing risk of breast cancer with increasing physical activity (trend p = 0.06). The relative risk for women in the highest versus lowest activity quartile was 1.6 (95% confidence interval 0.9-3.0; p = 0.13). Although both moderate-to-heavy leisure and occupational activities were associated with an increased risk, the association was marginally significant only for leisure activity (p = 0.06). Our findings do not support a protective effect of physical activity during adulthood for breast cancer, but suggest an increased risk among more active women.